Amendments to the Specification:

Please replace the paragraph beginning at page 7, line 14 with the following rewritten paragraph:

The inner walls or windows are translucent or transparent and enable at least certain types of light to pass from the outside of the transmitting window, through housings 12 and 14, and from inside sensor 10 through the receiving window. The printed circuit boards are placed at the distal ends of tube sections 18 and ~~24~~ 24, substantially parallel with the windows, and into the openings defined by carriers 20 and 28. The retainers 32a and 32b are then fitted into the respective apertures 30 (collectively referring to any one, combination of or all of the apertures 30a to 30f), so that the PCBs 60 and 70 cannot come loose or move translationally away from carriers 20 and 28.

Please replace the paragraph beginning at page 7, line 31 with the following rewritten paragraph:

Fig. 3 also illustrates that tube section 18 of housing portion 12 defines a key ~~62~~ 82 that is received by a notch ~~64~~ 84, where notch ~~64~~ 84 is defined by adapter 26 of female housing portion 14. Key ~~62~~ 82 and notch ~~64~~ 84 ensure that connectors 16 and 22 of portions 12 and 14, respectively, are oriented properly when the housing portions are assembled. As illustrated, sensor 10 creates a slight jog for the fluid flowing through the sensor, but sensor 10 is otherwise a relatively in-line device that does not produce a significant pressure drop.

Please replace the paragraph beginning at page 8, line 13 with the following rewritten paragraph:

A groove 44 is machined or provided in tube section 18 directly behind or below diaphragm holder 42. When male housing portion 12 is sealingly mated with female housing portion 14, groove 44 is substantially in alignment with the retainer insertion apertures 30e and 30f. In that manner, when retainer 32c is inserted through apertures 30e and 30f, retainer ~~32a~~ 32c is also inserted through groove 44, which locks male portion 12 and female portion 14 sealingly together. That is, retainer 32c catches the lip 45 of diaphragm holder 42 if someone attempts to pull housing portions 12 and 14 apart while retainer 32c is in place.

Please replace the paragraph beginning at page 10, line 8 with the following rewritten paragraph:

In many applications, it does not matter which way the diaphragm is mounted in the flow path, meaning male housing 12 can be oriented upstream or downstream of female housing 14. Diaphragm 50 can be used bi-directionally. In other applications, such as low pressure differential applications, the orientation of diaphragm 50 does matter. In such cases, a suitable marker, such as barb flange 46 shown in Figs. 4 and 5, can be provided to indicate that associated connector 16 should be connected to the fluid inlet. In alternative embodiments, the flow of light and the ~~flow~~ direction of fluid can be in the same or different directions.

Please replace the paragraph beginning at page 11, line 3 with the following rewritten paragraph:

Diaphragm 50 in operation with sensor 10 is opaque or at least semi-opaque to block all light or some light emanating ~~from~~ via the light source from reaching the light detector when septum 58 is closed. Diaphragm 50 when used with an infrared LED 62 and infrared detector 72, discussed below, is in one preferred embodiment configured to block or at least partially block infrared light. In other applications described below, another physical phenomenon besides light is used alternatively. In such cases, diaphragm 50 can be translucent or transparent. Depending on the phenomenon employed, diaphragm 50 can be mildly to highly resistive with respect to the movement of energy for that phenomenon. For example, if the source is a heat source and the detector is a heat detector, diaphragm 50 can be made of a material that is relatively resistive to the transfer of heat.

Please replace the paragraph beginning at page 12, line 1 with the following rewritten paragraph:

A light emitting diode 62, shown figuratively in Fig. 9, is placed on the side of PCB 60 that when it is mounted it faces inward towards the window of the respective carrier to which PCB 60 is mounted and towards the flow of fluid. Likewise, a phototransistor or detector 72, shown figuratively in Fig. 9, is placed on the side of PCB 70 such that when it is mounted in sensor 10 it faces inward towards the window of the respective carrier to which PCB 70 is mounted and towards the flow of fluid. Diode 62 and detector 72 are therefore not seen in Fig. 8.

Please replace the paragraph beginning at page 13, line 26 with the following rewritten paragraph:

Sensor 10 is alternatively operable to provide a variable output based ~~on~~ upon how much light is sensed by phototransistor 72. For example, sensor 10 can have an output range of approximately seven volts to about 13.8 volts, wherein seven volts corresponds to no light or low light and thus no pressure or low pressure, and wherein 13.8 volts corresponds to full saturated light or full flow or full pressure. A voltage output between seven and 13.8 volts corresponds to an intermediate amount of light and therefore an intermediate amount of flow. The voltage output in one embodiment increases linearly from seven volts to 13.8 volts based on increasing pressure or flowrate and an increase in the amount of light sensed. Again, it is also possible that a higher variable volt or milliamp output coincides alternatively with a lower flow or pressure and ~~light sensed and~~ decreases, e.g., linearly, as flow or pressure and light sensed increases.